

**REMARKS**

Reconsideration of the rejections set forth in the Office action dated 4/18/2006 is respectfully requested under the provisions of 37 CFR §1.111(b).

Claims 1-2, 5-6, 8-14, 17-18, and 30 are pending.

Claims 1-2, 5-6, 8-14, 17-18, and 30 stand rejected.

Claims 1, 5, 9, and 17 were amended to add limitations related to technology that was disclosed in patent applications that were incorporated by reference. These limitations are related to technology for determining orientation of the decoded information when displayed with the document.

***I. General Remarks***

Applicant thanks the Examiner for approving the drawings submitted on 12/14/2001, and for approving the modifications to the specification of 12/27/2006.

Applicant petitions for a one month extension of time as this office action reply was electronically filed on 8/18/06.

Paragraph [055] was again amended to correct a typographical error in the patent number that resulted from patent application 09/455,304, which is now US Patent 6,678,425. The prior office action reply had the last two numbers reversed. No new matter has been added by this amendment.

New paragraphs [055.1]-[055.15] were included from US Patent 6,678,425 that was incorporated by reference, thus, no new matter was added by these additional paragraphs. These paragraphs provide support for the claim amendments. The new paragraphs are based on Figures 17, 18, and 23-27; and column 9, line 66 through column 10, line 64, as well as column 12, line 6 through column 15, line 65 of '425. Terminology changes were made in the description to help clarify the difference in the

claims between the “composite image that is displayed” from the “composite lattice image pattern” generated as part of the disambiguation process.

***II. Rejections under 35 USC §103(a) (Wang217, Shioda, Mayer, and Wang264)***

Claims 1-2, 5-6, 8-14, 17-18, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (U.S. Patent 5,490,217) and further in view of Shioda et al. (U.S. Patent 6,634,559), Mayer, Jr. et al. (U.S. Patent 4,202,626), and Wang et al. (U.S. Patent 5,513,264).

Currently amended claims 1, 5, 9, and 17 include limitations directed towards a lens apparatus that produces a composite image of the document and image information decoded from the encoded information as well as limitations regarding determining the angular orientation of a lattice image pattern of glyph marks that carry the encoded information; for example, from currently amended claim 1.

An apparatus for creating a tamper-proof document, comprising:

an encoder configured to digitally encode a user-inputted portion of the document as encoded information;

a placement selector configured to select a location on the tamper-proof document to place the encoded information;

an access selector configured to select a level of access for the encoded information;

a processor configured to process, responsive to said access selector, the encoded information;

a printer configured to print the tamper-proof document including the encoded information as a lattice image pattern of glyph marks at the location;

a disambiguation unit configured to determine an angular orientation of the lattice image pattern, the disambiguation unit comprising:

a compositing mechanism configured to composite a subsample of the glyph marks in said lattice image pattern to a composite lattice image pattern; and

a lattice-axis determination mechanism configured to determine a lattice axis for said lattice image pattern from a line fit through centroids of some of a plurality of composite glyphs in the

composite lattice image pattern formed by the composing mechanism; and

a lens apparatus configured to produce a composite image of the document and image information decoded from the encoded information wherein the orientation of the image information is responsive to the disambiguation unit.

Currently amended claim 5 is also illustrative of these limitations and is:

A method for creating a tamper-proof document, comprising:

digitally encoding a user-inputted portion of the document as encoded information;

selecting a location on the tamper-proof document to place the encoded information;

selecting a level of access for the encoded information;

processing, responsive to selecting the level of access, the encoded information; and

printing the tamper-proof document including the encoded information as a lattice image pattern of glyph marks at the location;

determining an angular orientation of the lattice image pattern, the determining further comprising:

forming a composite lattice image pattern having a plurality of composite glyph marks; and

determining a lattice axis for the lattice image pattern from a line fit through centroids of some of the plurality of composite glyph marks; and

displaying a composite image of the document and image information decoded from the encoded information wherein the orientation of the image information is responsive to the lattice axis.

While Wang217 mentions real time verification at column 5, line 58 to column 6, line 8, nothing in Wang teaches how to do the verification. The instant application displays a composite image of the document and appropriately oriented image information that is decoded from the encoded information on the document. Support for this limitation is found at least in Fig. 9 and Fig. 10 and associated description in paragraphs [041]-[044]; and paragraphs [049]-[053], and [055].

Nothing in Wang217 teaches or suggests displaying such a composite image, nor does Wang217 teach or teach a suggestion to form a composite lattice image pattern having composite glyph marks or to determine a lattice axis for the lattice image pattern from a line fit through centroids of some of the composite glyph marks.

Shioda teaches using a data sheet that contains encoded information of a document file; it also teaches printing such a data sheet and scanning a data sheet. The data sheet can include passwords and passcodes. However, nothing in Shioda teaches or suggests displaying a composite image of the document and image information that is decoded from the encoded information on the document, nor does Shioda teach or teach a suggestion to form a composite lattice image pattern having composite glyph marks or to determine a lattice axis for the lattice image pattern from a line fit through centroids of some of the composite glyph marks.

Wang264 teaches the possibility of automating the rotation between a scanner and dataform, but does not teach how to do so. Applicant has amended the claims to include limitations directed towards a disambiguation unit and a method of operation for the disambiguation unit. Wang264 does not teach or teach a suggestion to form a composite lattice image pattern having composite glyph marks or to determine a lattice axis for the lattice image pattern from a line fit through centroids of some of the composite glyph marks.

Mayer teaches a lens array that allows comparison of an optically decrypted image of an optically encrypted image of a signature with the drawer's signature. Mayer requires that the document with the optically encrypted signature and the drawer's signature are exactly positioned under the lens and with the correct orientation. Nothing in Mayer teaches or suggests a lens apparatus configured to produce a composite image of the document and image information decoded from the encoded information wherein the orientation of the image information is determined from the angular orientation of a lattice image pattern. Nothing in Mayer teaches a suggestion to form a composite lattice image pattern having composite glyph marks or to determine a lattice axis for the lattice image pattern from a line fit through centroids of some of the composite glyph marks.

Nothing in Wang217, Shioda, Mayer, and Wang264 separately or combined teach or teach a suggestion that would lead one skilled in the art to the claimed invention, in particular nothing in these references teach a suggestion to form a composite lattice image pattern having composite glyph marks or to determine a lattice axis for the lattice image pattern from a line fit through centroids of some of the composite glyph marks. Thus, currently amended **claims 1 and 5 are patentable**.

Currently amended claim 17 is directed to a computer-readable medium that includes instructions that cause a computer to perform the method of claim 5. Thus, **claim 17 is patentable** for the same reasons as provided for claims 1 and 5.

Currently amended claim 9 is directed toward a method for ensuring that a document has not been altered and includes limitations:

- digitally encoding a user-inputted portion of the document as encoded information;
- selecting a location on the tamper-proof document to place the encoded information;
- selecting a level of access for the encoded information;
- processing, responsive to selecting the level of access, the encoded information;
- printing the tamper-proof document including the encoded information as an area of glyph marks at the location.
- decoding the encoded information as decoded information;
- determining an angular orientation of the lattice image pattern, the determining further comprising:
  - forming a composite lattice image pattern having a plurality of composite glyph marks; and
  - determining a lattice axis for the lattice image pattern from a line fit through centroids of some of the plurality of composite glyph marks; and
- displaying the decoded information as a composite image of the document and the decoded information wherein the orientation of the decoded information is responsive to the lattice axis;
- comparing the decoded information with the user-inputted portion;
- and

identifying the document as altered, if the decoded information is not identical to the user-inputted portion.

Nothing in Wang217, Shioda, Mayer, and Wang264 separately or combined teach or teach a suggestion that would lead one skilled in the art to the claimed invention, in particular nothing in these references teach a suggestion to form a composite lattice image pattern having composite glyph marks or to determine a lattice axis for the lattice image pattern from a line fit through centroids of some of the composite glyph marks. Thus, currently amended **claim 9 is patentable** over the combination of Wang217, Wang267, Shioda and Mayer.

Previously presented **claims 2, 6, 8, 12, and 30** as well as original **claims 10, 11, and 18** as well as previously presented **claims 13 and 14**, directly or indirectly depend on and further limit their respective independent claims that are patentable. Thus, these claims are also patentable.

Since all rejections, objections and requirements contained in the outstanding official action have been fully answered or traversed and shown to be inapplicable to the present claims, it is respectfully submitted that reconsideration is now in order under the provisions of 37 CFR §1.111(b) and such reconsideration is respectfully requested. Upon reconsideration, it is also respectfully submitted that this application is in condition for allowance and such action is therefore respectfully requested.

The undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025. This also constitutes a request for any needed extension of time and authorization to charge all fees therefor to Xerox Corporation Deposit Account No. 24-0025.

## PATENT

Should any additional issues remain, or if I can be of any additional assistance, please do not hesitate to contact me at (650) 812-4259.

Respectfully submitted,

/Daniel B. Curtis #39159/

DANIEL B. CURTIS  
Attorney for Applicants  
Reg. No. 39,159  
(650) 812-4259  
Dbcurtis@parc.com